

ABSTRACT

A novel amino acid transporter molecule mediating transportation of amino acids, which are nutrients essentially required in the survival and proliferation of various normal cells constituting a living body and various pathology-associated abnormal cells such as tumor cells, into cells and being expressed specifically in tumor cells compared with normal cells; and drugs for treating various pathogenic conditions such as tumor (cancer) which are obtained by identifying and isolating the above amino acid transporter molecule and identifying a substance capable of inhibiting the biological activity and/or expression of this molecule. Intensive studies were made to identify a tumor cell membrane surface molecule associating or interacting with a cell membrane surface 4F2hc molecule seemingly playing an important role in the activation of an unknown amino acid transporter. As a result, a gene encoding the novel amino acid transporter molecule, which mediates the incorporation of various neutral amino acids, various drugs or physiological substances into cells, has been found out and a substance capable of inhibiting the incorporation of amino acids via this molecule and thus inhibiting the proliferation of tumor cells has been also found out.